

Remarks:

This amendment is submitted in an earnest effort to advance this case to issue without delay. The examiner has indicated that the case contains allowable subject matter.

The objection to the Declaration is not understood. Attached is a copy of the filed Declaration taken off the PAIR website showing the paragraph:

"I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56."

This statement would appear to meet the statute.

The Specification has been amended to clear up the small problems noted by the examiner. The claims have been also carefully gone over to eliminate the problems noted. The factor j has been added to the claims (see page 6, lines 18-21). There are now two independent claims, claim 16 for when the known points are on the left side of the interval and claim 17 for the right side. Claims 1-9 relate to the embodiment of pages 8-9 and FIG. 3, with the six particular embodiments of FIGS. 4-9. No new matter whatsoever has been added.

Claims 1 and 11 have been canceled and replaced with claims 16 and 17 carefully drafted to avoid the \$112 problems.

They also avoid the art, in particularly the APA of US 5,886,911 of Yang and US 6,141,392 of Thomas found by the examiner.

More particularly, the method disclosed in Yang would not lead a skilled person in the art to modify the method disclosed in Thomas so as to arrive to the present invention.

Yang discloses a hardware-implemented fast-calculation method for performing a linear interpolation between two given points, using the bisection method. The distance between a given point X and a given point Y is divided into the n -the power of two equal lengths, and a bisection method is recursively applied in order to calculate unknown points between given points X and Y. The interpolation method proposed in Yang is applicable only when the distance between the two known points is a power of two, as the method is based on this prerequisite. This is expressly declared in column 3, lines 15-18, at the beginning of the detailed description: "As shown In FIG. 1, there is a schematic representation of a linear interpolation operation, the distance between a given point X and a given point Y is divided into the n -the power of 2 equal lengths."

Even supposing that a skilled person would recognize this limitation and seek to generalize the method by moving one of the end points of the interval to an adjacent known point, it is to be acknowledged that, considering in general an interval between two points having positions 1 and N, it is hardly ever true that the distance between point 1 and point $N+1$ is a power of 2. For

example if we consider a first point X having an abscissa equal to 1 and two points Y1 and Y2 having abscissas respectively equal to 7 and 8, the distances (X, Y1) and (X, Y2) are equal to 6 and 7 respectively, and therefore none of them is equal to a power of 2. It is also to be noted that the method of Yang requires that, at the beginning of the iterative process, a target point "I" is chosen having a position "K" inside the interval. During the iterative process, the position of the target point is gradually approached by applying a bisection method, i.e. only some of the intermediate points are calculated, see in particular column 3, lines 28-33: "The linear interpolation method adopts a concept of a bisection method. The position where the target point I located will be gradually approached by sequentially referring to the digit of the corresponding bit in the binary representation of the position pointer K from the highest order bit to the lowest order bit, and then the interpolation value of the target point I is achieved."

Furthermore, as can be seen in particular in Yang in the flow chart of FIG. 5 and in the corresponding description on column 3, line 62 - column 4, line 18, the values of those intermediate points that are calculated are not stored in any register and only the value of the target point "I" is returned.

Such an algorithm therefore would not be useful for calculating all the intermediate points between two known points, which is the scope of this invention.

For these reasons, therefore, all claims are allowable.
Notice to that effect is earnestly solicited.

If only minor problems that could be corrected by means of a telephone conference stand in the way of allowance of this case, the examiner is invited to call the undersigned to make the necessary corrections.

Respectfully submitted,
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Enclosure: Request for extension (three months)
Copy of filed Declaration